

DATE: 10/20/2009

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 1

BID NO.: 50-00095751
B2009000257

JEFFERSON PARISH
PURCHASING DEPARTMENT
P.O. BOX 9
GRETN, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: AHolmes

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETN, LA 70053 UNTIL 2:00 PM, 11/10/2009 AND PUBLICLY OPENED UPON COMPLETION OF ADMINISTRATIVE TASKS.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES DISQUALIFY BID.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS
THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. THIS BID PACKAGE MUST BE RETURNED IN ITS ENTIRETY.

Questions on this bid are to be faxed to (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH will accept one bid only from each vendor. Items bid must meet or exceed specifications.

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection.

If the bid exceeds \$20,000.00 and the bidder is an agency, corporation, partnership, or other legal entity, the president, vice-president, secretary/treasurer, or an authorized agent, shall sign the proposal, and satisfactory evidence of the authority of the person signing for the agency, corporation, partnership, or other legal entity shall be attached to the proposal.

AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

JEFFERSON PARISH requires a firm price. Quoted price will remain firm until _____

PRICES: Jefferson Parish is exempt from paying sales tax under LSA-RS 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. If a contractor is to act as Purchasing Agent for tax-exempt purposes, the Parish shall specifically state so within this bid specification. All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

RESPONSE TO INVITATION: If your company is unable to bid on this request, please state your reason on bid form, and return to this office before bid opening date. Failure to do so may result in the removal of your company from Jefferson Parish's vendors list.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 105529 or 105530 dated 5/17/06. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053.

POSTING OF BIDS: Non-Advertised bids will be posted on bulletin board in Suite 4400, Jefferson Parish General Government Building, Gretna, LA, for a period of Five (5) working days after opening date.

Advertised bids will be tabulated and a copy forwarded to each responsive bidder.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

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1. All bidders are invited to attend the pre-bid conference. Failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. This conference is held to allow questions to be answered and inspect the site with owner's representative, etc. Failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification (with no additional cost to the owner).
2. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project.
3. A Louisiana state contractor's license may be required in accordance with LSA-R.S. 37:2150 et seq.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

4. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
5. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.
6. All awards in excess of \$5,000.00 for the construction, alteration, or repair of any public works will be reduced to a formal contract which shall be recorded at the contractor's expense. A price list of recordation costs may be obtained from the Clerk of Court and Ex-officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 reduced to formal contract will require a performance bond.
7. A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. Performance bond shall be supplied at the signing of the contract.
8. Please indicate if you have insurance: YES _____ NO _____
Successful bidder will be required to furnish proof of insurance to this office.
Successful bidder will be required to furnish Federal I.D. Number.
9. Minimum insurance requirements for this bid are as indicated on the attached sheet.
10. Each bid must be accompanied by a cashier's check, certified check, money order, or surety bid bond in the amount of 5% of the bid.
11. Affidavit required to be submitted with bids on all solicitations for construction, alteration or demolition of public building or project. (LSA-R.S. 38:2224)
12. This is a requirements contract to be provided on an as needed basis.
13. All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO _____

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____ %

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

14. In the event that the successful bidder cannot furnish a specific item or material and labor in the required time, JEFFERSON PARISH may purchase on an emergency basis from the next lowest bidder, or available source, until such time as the successful bidder has notified the PARISH in writing that his stock or labor capability has been replenished. The difference in price will be charged against the successful bidder of this contract, and evidence of purchases and price will be provided.
15. Vendor will be required to submit to the chief buyer of the JEFFERSON PARISH Purchasing Department a quarterly usage report by item of all items listed on this proposal.
16. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be disqualified if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES _____

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK _____

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

***** ALL BIDDERS MUST COMPLETE SECTION BELOW *****

FIRM NAME: _____

SIGNATURE: _____

(Must be signed here)

TITLE: _____

PRINT OR TYPE NAME: _____

ADDRESS: _____

CITY, STATE: _____

ZIP: _____

TELEPHONE: _____

FAX: _____

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EMAIL ADDRESS: _____

TOTAL PRICE OF ALL BID ITEMS: \$ _____

THIS BID MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE COMPANY/FIRM FOR BID TO BE VALID. BID PACKAGE, INCLUDING INSTRUCTIONS AND SPECIFICATIONS, MUST BE RETURNED IN ITS ENTIRETY FOR BID TO BE VALID. SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the bid number and bid opening date indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00095751

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	2	EA	<p>PURCHASE QUANTITY OF CONE VALVES FOR THE JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS - WATER</p> <p>0010 CONE VALVE, 18 INCH, RODNEY HUNT, ROTOVALVE</p> <p>VALVES MUST MATCH ATTACHED SPECIFICATION</p> <p>CONES WILL REPLACE ORIGINAL CONES INSTALLED WHEN PLANT WAS BUILT IN 1971.</p>		

**ROTOVALVE CONE VALVE SPECIFICATION WITH
HYDRAULIC CYLINDER ACTUATOR**

1.01 GENERAL

- A. Valves shall have the name of the manufacturer and the size of the valve cast or molded onto the valve body or bonnet or shown on a permanently attached plate.

1.02 MANUFACTURERS

- A. Rodney Hunt Co., Orange, MA,
- B. Manufacturers shall have experience manufacturing such valves for a minimum of ten years.

1.03 VALVE DESIGN

- A. Valves shall be metal-seated cone valves suitable and operable for fluid velocities specified, fluid and environmental temperatures of 33 to 125 degrees Fahrenheit, and design pressures to 150 psi.
- B. Cone valves shall consist of five main elements: a pressure vessel (body) that shall have waterway inlet and outlet diameters equal to the nominal size of the valve, a rotatable cone that shall have a clear waterway diameter equal to the nominal size of the valve, a head cover to enclose the plug in the valve body, a operating mechanism, and a hydraulic cylinder operator.
- C. The water passage through each valve shall be circular with a diameter equal to the size of designation of the valve.
- D. Design each valve for operation with the axis of rotation of the plug in either the horizontal or vertical position.
- E. Each valve shall operate in fully opened and in throttling positions without noticeable flutter or vibration of the plug and shall be free of backlash or loose connections in the operating mechanism, linkage, and shaft connections.

1.04 DESIGN STRESSES

- A. The maximum unit stress in any material, except where otherwise specified, shall not exceed 33% of the minimum yield strength or 20% of the minimum ultimate strength required by the applicable specifications for that material.

1.05 BODY

- A. The valve body shall consist of a housing having flanged inlet and outlet waterways and a head flange opening. The head flange shall permit removal of the cone. The valve body shall have double seat rings fused to the body waterway which shall engage the seat rings of the cone when the cone is seated. The seat rings shall be raised above the internal surface of the body. Seats to be tapered not less than 1½-inch in 12-inches.
- B. The valve body shall be of conical design with a flange at the larger diameter of the truncated cone, an inlet flange on one side of the cone, and an outlet flange on the opposite side. Flanges shall be cast integrally with a cast body. The inside circular cross sections of the conical portion of the valve body, in planes normal to the vertical centerline, shall not be out of round at any point by more than 1/8 inch.
- C. Provide a trunnion bearing at the bottom of the body to guide and support the bottom trunnion of the plug. Fit the trunnion bearing in a rigid housing which is an integral part of the body.
- D. Bolt a detachable cast iron or fabricated steel base to the valve body for supporting and anchoring the valve on a concrete pad in the position shown in the drawings. Provision shall be made on the valve body for bolting the base to the valve body so that the valve shaft may be mounted in the vertical position or in the horizontal positions.
- E. Design the flanged joints in the valve body to withstand the test pressure and maximum operating loads.
- F. The bore of the body, outside diameter of the flanges, and the flange bolt circle shall be concentric with the axis of the water passage and the faces of the inlet and outlet flanges shall be parallel to each other and normal to the axis of the water passage. Drill the inlet and outlet flanges so that the bolt holes straddle the vertical centerline of the valve.
- G. Design and cast the body with stiffeners to preclude any distortion or deflection that would cause leakage when the valve is subjected to operating pressures.

1.06 FLANGES

- A. Valve flanges shall conform to ANSI B16.1, full flat faced suitable for use with a 1/8" thick full faced NBR flange gasket.
- B. Coordinate flange facing with adjacent pipe flanges and dismantling joints and their manufacturers.

1.07 HEAD OR BODY COVER

- A. Design the valve body cover to withstand the test pressure and maximum operating loads specified. The body cover shall be registered to fit the flange on the valve body and shall contain a bearing and a suitable packing gland where the plug shaft passes through the cover. The register shall hold the cover so that the bearing will be concentric with the top flange, the curvature of body seats, and the bottom trunnion bearings.
- B. The operating mechanism housing shall be securely fastened to the body cover. Design fastening and body cover to withstand the maximum operating torque possible under the specified operating conditions.

1.08 SEAT RINGS

- A. Provide the inside of each valve body with two seat rings and provide the outside surface of the valve plug with two seat rings. Finished surfaces of seat rings shall be raised a minimum of 1/8 inch above the adjacent surfaces of the body and plug. Weld seat rings to the body and plug. The unit pressure between the seat rings on the plug and the seat rings on the valve body shall not exceed 2,000 psi based on the projected area with an unbalanced pressure on the plug equal to the specified rated working water pressure.
- B. Seat rings in the body shall be finished concentrically with the bearing in the body, and the seat rings on the plugs shall be concentric with the plug shaft. Finish the contact surfaces of seat rings to the required final dimensions after the seat rings have been secured in place.
- C. When the valve is closed and fully seated, the downstream seat rings on the plug shall be tightly pressed against the downstream seat on the valve body.

1.09 CONE OR CONICAL PLUG

- A. The valve plug shall be a truncated cone to match the conical valve body, and seats are to be tapered not less than 1½-inch in 12-inches to prevent seizure between the seats on the plug and the body when the plug is fully seated. A full cylindrical waterway equal in diameter to the inlet and outlet ports of the body shall be provided through the plug to match the body waterway. The conical surface of the plug shall be completely formed from the top to the bottom of the plug except for the opening for the waterway. Plug trunnions shall be cast integrally with the plug.
- B. The cone shall be fully skirted with a clear waterway opening equal to the valve nominal diameter. The cone shall rotate on stainless steel bushed trunnions. The operating shaft shall be securely attached to the cone to transmit the lifting force and operating torque.

1.10 TRUNNIONS, PLUG SHAFT, AND BEARINGS

- A. When the valve is fully closed the seat rings on the plug shall be wedged firmly against the seat rings in the valve body. In opening the valve, an axial motion shall be imparted to the plug to move it away from the body seats, before rotation from the closed position, followed by rotary motion to turn the plug to the fully open position, and then an axial motion shall be imparted to the plug to seat it in the fully open position. In closing the valve from the fully open position, the plug shall be lifted prior to rotation then resealed after completion of rotation in a manner similar to that required for opening the valve. During rotation of the plug, there shall be ample clearance between the plug and body seat rings.
- B. Provide the body/head trunnions on which the plug rotates with bronze sleeves.
- C. Sleeves and bushings shall be of dissimilar material to prevent galling. The axial movement of the plug in unseating and the clearance in the trunnion bearings shall be such that during rotation of the plug, there will be no rubbing between the plug seats and body seats of the valve. Design the plug shaft and its connection to the plug with regard to tensile, Torsional, and combined stresses so that the maximum stress possible will not exceed the specified values.
- D. The end of the plug shaft which connects to the operating mechanism shall be readily accessible and designed to permit disconnecting and removing the operating mechanism without dismantling the valve body.
- E. Design trunnions and bearings to withstand the maximum combined bearing loads possible under the specified operating conditions. With differential across the valve equal to the specified rated working water pressure and the plug in the closed but unseated position, the value of the average bearing pressure, in psi, on the minimum projected area of the trunnion bearings shall not exceed 3,000 psi.
- F. Machine the trunnions such that the required seat clearance will be maintained when the valve is assembled.

1.11 PACKING GLANDS AND PACKING

- A. Each packing gland shall consist of a flanged follower ring, packing, studs, nuts, and washers, and shall be constructed, located, and arranged so that it can be readily repacked from the outside of the valve body. Each flanged follower ring, studs, nuts, and washers shall be of bronze or stainless steel.

1.12 MATERIALS OF CONSTRUCTION

A. Materials of construction for valve components shall be as tabulated below

Component	Material	Specification
Body, Plug	Ductile Iron	ASTM A536 Gr 65-45-12 Ductile Iron
Shaft	Alloy steel	ASTM A564, copper-nickel, UNS S17400
Plug Trunnion sleeve bearings	Stainless steel	Type 304
Body & Head sleeve bearings	Bronze	CA C93600/C93700
Flanges	Ductile Iron	ASTM A536 Gr 65-45-12 Ductile Iron
Dowel pins	Steel	ASTM A 108 dowels
Plug & body seat rings	Monel	ASTM B 127, Alloy UNS N04400
Packing gland	Bronze	ASTM B584 C85500
Bolts, studs, cap screws, nuts	Steel	ASTM A 193, Grade B7, or ASTM A 194, Grade 2H
Wetted high-strength fasteners	Alloy steel	ASTM A 564, Grade S17400
Misc. stainless steel liners, washers, shims		UNS 31600

B. Bronze in contact with water shall have the following constituents:

Constituent	Content
Zinc	7% maximum
Aluminum	20% maximum
Lead	8% maximum
Copper+Nickel+Silicon	83% maximum

1.13 VALVE OPERATING MECHANISM AND VALVE ACTUATOR

A. Mount the valve operating mechanism on the head cover. Provide a removable cover that shall permit internal inspection, adjustment, and repair of the valve operating mechanism without removing the valve from the line. The valve operating mechanism shall employ an axial motion to lift the valve cone from the seat, followed by a 90-degree rotary motion of the cone to the open position, and an axial motion to reseat the valve cone in the fully open position. The valve operating mechanism shall close the valve in the reverse order of the opening operation.

- B. Equip valve operating mechanism with double pole-double throw 120-volt A-C rated adjustable limit switches for indication of fully closed, fully open, and 95% closed positions. Materials of the valve operating mechanism subject to rubbing shall be of different hardness. Design the valve operating mechanism so that the packing on the main shaft can be replaced without removing the valve operating mechanism housing.
- C. The valve actuator shall be removable for inspection, repair, and replacement without dismantling either the valve operating mechanism or the valve body. All parts of each valve operating mechanism shall be readily accessible for inspection, adjustment, repair, and replacement.
- D. The valve operating mechanism housing shall be securely fastened to the valve. Design the fasteners and the structural members used in securing the operating mechanism to the housing to withstand the maximum operating torque possible under the specified operating conditions.
- E. Each valve operating mechanism shaft shall be designed to transmit sufficient force to seat and unseat the valve plug, or to rotate the plug, under the operating conditions specified. Design each valve operating mechanism to withstand the forces exerted by the hydraulic cylinder valve actuator without undue deflection or distortion.
- F. Properly lubricate moving parts with grease before shipment, and provisions shall be made so that lubrication can be accomplished from the exterior of the housing without removing any covers or parts. Oil lubrication is not acceptable.
- G. Provide adjustable stop to prevent over travel of valve plug in open or closed position.
- H. If the shaft-mounted position indicators specified would not be visible to operating personnel during manual operation of the valve, an additional valve position indicator shall be provided on either the control unit or on the valve operating mechanism to show the position of the valve in percentage of fully open.

1.14 WATER HYDRAULIC CYLINDER ACTUATOR

- A. Water hydraulic cylinders shall be of the heavy duty type and shall be rated for 50 PSI working pressure. Water hydraulic cylinders shall be designed and manufactured to AWWA C540 standards & NFPA standards.
- B. Materials
 - 1. The piston rod shall be chrome plated 17-4PH stainless steel.

2. The cylinder head & cap ends shall be stainless steel.
3. The cylinder barrel shall be stainless steel T304
4. The tie rods shall be 17-4 stainless steel.
5. All seals shall be made of a material that is compatible with water.
6. The cylinder piston shall be made of stainless steel.

C. Sizing

1. The cylinder shall be sized to provide 125% of the thrust required to open or close the cone valve under the maximum specified operating conditions.
2. The piston rod shall be sized to safely withstand 1.25 times the full cylinder output at maximum system pressure.

D. Construction

1. The piston shall be equipped with lip type seals for minimum leakage under static load conditions. The piston shall also be equipped with guide rings to limit seal loading and prevent the piston from contacting the barrel.
2. The rod cartridge shall be removable with no special tools required. It shall be possible to replace the rod seal without loosening the tie rods.
3. The cylinder barrel and rod shall be finished to a maximum surface roughness of 16 micro inches.
4. Cylinder ports are to be NPT.
5. Cylinder rod end shall be threaded with UNF right hand female threads to accept the cone valve operating rod. Minimum thread length shall be one diameter of the operating rod. Piston rod shall have either wrench flats or spanner holes to facilitate assembly to the operating rod.
6. Cylinder stroke shall be sufficient to fully operate the cone valve through its design stroke.
7. Cylinder cap shall be equipped with a leak proof stroke adjusting screw providing the capability of reducing effective retraction stroke of the cylinder by at least 3 inches.

8. The hydraulic cylinders shall be manufactured by Parker Hannifin, Eaton, Hanna, Rexroth or equal.

E. Minimum supply pressure available to the actuator will be 45 psi.

1.15 MOUNTING VALVE ACTUATOR

A. The valve manufacturer shall select and mount the valve actuator and accessories on each valve and stroke the valve from fully open to fully close prior to shipping.

1.16 FACTORY HYDRAULIC TESTING OF VALVE

- A. Subject each valve to leakage and hydrostatic tests.
- B. Hydrostatically test valves to 1.5 times the design pressure with cone in open position. Conduct test in the same position in which valve will be installed, with the operator attached. Maintain the test pressure for a minimum of 10 minutes. Valve parts shall show no evidence of stress, leaks, or weeping. Test valves to the design working pressure with the valve cone in the closed position.
- C. Leakage tests each side of the closed cone valve at the design pressure. Maintain the test pressure for a minimum of 10 minutes. The leakage past either seat shall not exceed 0.4 ounces per minute per inch of the valve nominal diameter, and valve parts shall show no evidence of stress or weeping. Valve testing shall include opening the valve against the unbalanced differential design pressure to verify no wedging of the seat is taking place.
- D. After all hydrostatic and leakage testing, perform a functional test for each valve. The functional test shall consist of normal opening and normal closing sequences. The functional test shall demonstrate that the operator system's performance complies with the specified valve opening and closure rates. During the functional test, the valve assembly shall show no signs of binding while stroking the valve.
- E. The valve with hydraulic cylinder actuator shall be shop operated three times from the fully closed to the fully opened position, and the reverse under a no-flow condition to demonstrate that the complete valve assembly is workable.

1.17 PAINTING AND COATING

A. Coat metal valves located above ground or in vaults per Section 09900. Apply the specified prime coat at the place of manufacture. Apply intermediate and finish coats in field. Finish coat shall match the color of the adjacent piping.

- B. Line the interior metal parts of metal valves 4 inches and larger, excluding seating areas and bronze and stainless steel pieces, per Section 09900. Apply lining at the place of manufacture.
- C. Line operator housings in contact with grease per Section 09900.
- D. Measure the thickness of the valve interior linings per Section 09900. Repair areas having insufficient film thickness per Section 09900.

PART 3 - EXECUTION

2.01 SERVICE CONDITIONS

- A. Design data for valves shall be as follows:

Pump Design Head	50'
Pump Design Flow	12,000 GPM
Normal Closing Time from fully closed to fully open	Approx.10-2012 secs.
Normal Opening Time from fully open to fully closed	Approx.12 secs.

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____
INCORPORATED, DULY NOTICED AND HELD ON _____,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
WAS:

RESOLVED. THAT _____, BE AND IS HEREBY
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
CONTRACTS AND ACTS AND TO RECEIVE AND RECEIPT THEREFOR ALL
PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF
ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING,
APPROVING, CONFIRMING, AND ACCEPTING EACH AND EVERY SUCH ACT
PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
A TRUE AND CORRECT COPY OF AN
EXCERPT OF THE MINUTES OF THE
ABOVE DATED MEETING OF THE BOARD
OF DIRECTORS OF SAID CORPORATION,
AND THE SAME HAS NOT BEEN
REVOKED OR RESCINDED.

SECRETARY-TREASURER

DATE